

CLAIMS:

1. An apparatus for indexing a length of film for severance comprising:
a linear feeding device operative to hold the film and to feed a
5 predetermined amount of film to a trimming device by moving linearly between
an initial position and another position towards the trimming device; and
a film holder between the linear feeding device and the trimming device
that is operable between a first position wherein a gap is provided for the film to
pass through during feeding to the trimming device, and a second position for
10 clamping the film when severing the film with the trimming device.
2. An apparatus as claimed in claim 1, wherein the linear feeding device
comprises a vacuum head coupled to a vacuum suction device.
- 15 3. An apparatus as claimed in claim 2, wherein the vacuum head has a
patterned interface, and said interface is changeable for different types of film.
4. An apparatus as claimed in claim 2, wherein a surface of the linear
feeding device contacting the film is made from material that has low static
20 generation with the film.
5. An apparatus as claimed in claim 1, including a linear encoder coupled to
the linear feeding device for determining a position of the linear feeding device.
- 25 6. An apparatus as claimed in claim 1, including a film reel for supplying the
length of film, and sensors positioned adjacent to the film reel operative to
activate the film reel to release film at particular positions of the film with respect
to the sensors, whereby a loop is maintainable between the film reel and a
surface supporting the film for indexing.
- 30 7. An apparatus as claimed in claim 6, including one or more rollers situated
between the film reel and the linear feeding device to bring the film substantially
level with the said surface supporting the film.

8. An apparatus as claimed in claim 1, including a collecting reel to which a backing cover peeled off from the film is coupled, for collecting backing cover peeled off from the film during indexing.

5 9. An apparatus as claimed in claim 8, including collecting sensors adjacent to the backing cover that is operative to initiate driving of the collecting reel for collecting further backing cover from the film.

10 10. An apparatus as claimed in claim 1, including a pick-up device movable between the trimming device and a placement position, and an optical device positionable under the pick-up device for inspecting a piece of film on the pick-up device.

15 11. An apparatus as claimed in claim 1, including a film sensor situated on the trimming device for detecting a presence of a length of film and for initiating a trimming action to sever the same.

20 12. An apparatus as claimed in claim 1, including an end-of-film sensor on the apparatus for detecting an end of a length of film and initiating an action to stop feeding film to the trimming device.

13. A method for indexing a length of film for severance at a severance position comprising the steps of:
providing a linear feeding device at an initial indexing position for holding
25 the film and a gap between the initial indexing position and the severance position for the film to pass through;
feeding a predetermined amount of film for severance at the severance position by moving the linear feeding device together with the film linearly towards the severance position;
30 closing the said gap and clamping the film; then
severing the predetermined length of film.

14. A method as claimed in claim 13, wherein the step of holding the film comprises activating a vacuum suction source coupled to the linear feeding device for applying a holding pressure onto the film.
- 5 15. A method as claimed in claim 14, including deactivating the vacuum suction source to release the film after clamping the film.
- 10 16. A method as claimed in claim 13, wherein moving the linear feeding device linearly comprises sliding the linear feeding device along a surface supporting the film.
- 15 17. A method as claimed in claim 13, further including the step of moving the linear feeding device linearly to its initial indexing position after clamping the film.
18. A method as claimed in claim 13, including maintaining a loop in the film between a supply of film and a surface supporting the film for indexing.
- 20 19. A method as claimed in claim 17, including maintaining a portion of the film to be held by the linear feeding device substantially level with the said surface supporting the film.
- 25 20. A method as claimed in claim 13, including picking up a piece of film that has been severed by holding it on one surface, and inspecting an opposite surface of the piece of film with an optical device before it is placed onto a placement surface.